

**REMARKS**

This is in full and timely response to the Office Action dated February 17, 2010.

Claims 27-48 are currently pending in this application, with claims 27 and 36 being independent. *No new matter has been added.*

Reexamination in light of the following remarks is respectfully requested.

**Entry of amendment**

This amendment *prima facie* places the case in condition for allowance. Alternatively, it places this case in better condition for appeal.

Accordingly, entry of this amendment is respectfully requested.

**Prematureness**

Applicant, seeking review of the prematureness of the final rejection within the Final Office action, respectfully requests reconsideration of the finality of the Office action for the reasons set forth hereinbelow. See M.P.E.P. §706.07(c).

**New non-final Office Action**

If the allowance of the claims is not forthcoming at the very least and a new grounds of rejection is made at least against the claims, then a new non-final Office Action is respectfully requested at least for the reasons provided hereinbelow.

**Claim rejections**

**I. Either individually or as a whole, U.S. Patent No. 6,560,230 (Li) and U.S. Patent Application Publication No. 2004/0114516 (Iwata) fail to disclose, teach, or suggest each an every feature of Claims 27-35.**

Claims 28-35 are dependent upon claim 27. Claim 27 is drawn to a data transmitting method comprising the steps of:

confirming presence or absence of a real time packet request, said real time packet request commanding a stream transmitting portion to schedule a transmission of a real time packet;

confirming presence or absence of a non-real time packet request only after confirming the absence of said real time packet request, said non-real time packet request commanding said stream transmitting portion to schedule a transmission of a non-real time packet.

**A. U.S. Patent No. 6,560,230 (Li)**

**1. Li fails to disclose, teach, or suggest confirming presence or absence of a real time packet request.**

*Claim 27 provides for said real time packet request commanding a stream transmitting portion to schedule a transmission of a real time packet.*

Here, Li arguably discloses that after the packets are classified they can be scheduled for transmission (Li at column 6, lines 33-34).

Scheduler 50 schedules the transmission of the packet out an output port (Li at column 8, lines 29-30).

However, Li fails to identify any request that commands the scheduler 50 to schedule the transmission of a packet.

Specifically, FIG. 5 is a schematic view of apparatus for scheduling packets according to the invention; FIG. 6 is a flow chart illustrating a method according to the invention by which leaf scheduling engines may select and transmit packets; and FIG. 6A is a flow chart illustrating a method according to the invention by which non-leaf scheduling engines may select and transmit packets (Li at column 5, lines 1-11).

As shown in FIGS. 5 and 6, a scheduler 50 receives each incoming packet 51 together with a class identifier 53 generated by a classifier 52 (**step 102**) (Li at column 8, lines 34-36).

Here, Step 102 of Li fails to identify any request that commands the scheduler 50 to schedule the transmission of a packet.

Scheduler 50 then places each packet in a queue 55 (**step 104**) (Li at column 8, lines 36-37).

Here, Step 104 of Li fails to identify any request that commands the scheduler 50 to schedule the transmission of a packet.

In a preferred implementation of scheduler 50, each leaf scheduling engine 60 calculates a start time S and a finish time F for packets 51 at the heads of its queues 55 (**step 106**) (Li at column 10, lines 16-19).

Here, Step 106 of Li fails to identify any request that commands the scheduler 50 to schedule the transmission of a packet.

According to the preferred embodiment of the invention, each leaf scheduling engine 60 selects a group of eligible packets 51 from the group of all packets 51 at the heads of the queues 55 in the group 56 associated with that leaf scheduling engine 60 (**step 110**) (Li at column 11, lines 3-7).

Here, **Step 110** of Li fails to identify any request that commands the scheduler 50 to schedule the transmission of a packet.

In preferred embodiments of the invention, the leaf scheduling engine 60 will select for transmission the eligible packet 51 which meets a selection criterion (**step 114**) (Li at column 11, lines 35-37).

Here, **Step 114** of Li fails to identify any request that commands the scheduler 50 to schedule the transmission of a packet.

Eventually the selected packet will be passed to the parent of the leaf scheduling engine 60 (**step 122**). (Li at column 11, lines 58-60).

Here, **Step 112** of Li fails to identify any request that commands the scheduler 50 to schedule the transmission of a packet.

At that time, the virtual time V of the leaf scheduling engine 60 will be updated (**step 125**) and leaf scheduling engine 60 will select a new packet 51 (**step 114**) from a queue 55 for eventual transmission (Li at column 11, lines 60-63).

Here, **Step 125** of Li fails to identify any request that commands the scheduler 50 to schedule the transmission of a packet.

Any packet in the eligible set which does not have the highest priority is removed from the set (**step 118**) (Li at column 13, lines 13-15).

Here, **Step 118** of Li **fails to identify any request** that commands the scheduler 50 to schedule the transmission of a packet.

After an eligible set has been constructed then the parent scheduling engine 60 **selects** one packet to pass on next to its parent scheduling engine according to a selection criterion (**step 114 or 120**) (Li at column 13, lines 24-27).

Here, **Step 114 or 120** of Li **fails to identify any request** that commands the scheduler 50 to schedule the transmission of a packet.

FIG. 8 is a flow chart illustrating a simplified embodiment of the invention (Li at column 5, lines 15-16).

Simplified method 200 begins by **selecting** all high priority packets which are currently queued (**step 204**) (Li at column 13, lines 41-42).

Here, **Step 204** of Li **fails to identify any request** that commands the scheduler 50 to schedule the transmission of a packet.

The method continues by passing the one high priority packet having the smallest finish time F (**step 206**) (Li at column 13, lines 42-44). In the alternative, **step 206** could pass the packet having the smallest start time S (Li at column 13, lines 44-45).

Here, **Step 206** of Li **fails to identify any request** that commands the scheduler 50 to schedule the transmission of a packet.

If there are no queued high priority packets then the method selects all queued low priority packets (**step 208**) and continues by forwarding the low priority packet with the smallest finish time F (**step 210**) (Li at column 13, lines 45-49).

Here, **Steps 208 and 210** of Li **fail to identify any request** that commands the scheduler 50 to schedule the transmission of a packet.

As a consequence, Li fails to disclose, teach, or suggest confirming presence or absence of a real time packet request.

*Thus, Li fails to disclose, teach, or suggest a step of confirming presence or absence of a real time packet request, said real time packet request commanding a stream transmitting portion to schedule a transmission of a real time packet.*

**2. Li fails to disclose, teach, or suggest confirming presence or absence of a non-real time packet request.**

*As noted hereinabove, Li fails to identify any request that commands the scheduler 50 to schedule the transmission of a packet.*

As a consequence, Li fails to disclose, teach, or suggest confirming presence or absence of a non-real time packet request.

*Thus, Li fails to disclose, teach, or suggest a step of confirming presence or absence of a non-real time packet request only after confirming the absence of said real time packet request, said non-real time packet request commanding said stream transmitting portion to schedule a transmission of a non-real time packet.*

**B. U.S. Patent Application Publication No. 2004/0114516 (Iwata)**

1. Iwata fails to disclose, teach, or suggest confirming presence or absence of a non-real time packet request only after confirming the absence of said real time packet request.

Iwata arguably discloses that this packet scheduling apparatus comprises a packet input section 1, a packet queue group 2, a scheduler section 3, a packet dividing section 4, a packet output section 5 and a packet buffer 6 (Iwata at Paragraph [0026]).

Iwata arguably discloses that the scheduler 32 notifies the packet output section 5 of the queue information (indicating the premium packet queue 21 or the low priority packet queue 22) included in the data at the top of the scheduling queue 31 at output start time, and requests the packet output section 5 to transmit the packet (Iwata at Paragraph [0039]).

Nevertheless, Iwata fails to disclose, teach, or suggest the confirmation of presence or absence of a request to transmission of a low priority packet only after confirming the absence of a request to transmission of a premium packet.

*Thus, Iwata fails to disclose, teach, or suggest a step of confirming presence or absence of a non-real time packet request only after confirming the absence of said real time packet request, said non-real time packet request commanding said stream transmitting portion to schedule a transmission of a non-real time packet.*

**II. Either individually or as a whole, U.S. Patent No. 6,560,230 (Li) and U.S. Patent Application Publication No. 2004/0114516 (Iwata) fail to disclose, teach, or suggest each an every feature of Claims 37-48.**

Claims 37-48 are dependent upon claim 36. Claim 36 is drawn to a data transmitting apparatus comprising:

packetizing blocks configured to packetize streams of data into streams of packets, said streams being streams of real time packets and a stream of non-real time packets;

a stream transmitting portion configured to confirm presence or absence of a real time packet request and to confirm presence or absence of a non-real time packet request, the presence or absence of the non-real time packet request being confirmed only after confirming the absence of said real time packet request.

**A. U.S. Patent No. 6,560,230 (Li)**

1. **Li fails to disclose, teach, or suggest the presence or absence of the non-real time packet request being confirmed only after confirming the absence of said real time packet request.**

*As noted hereinabove, Li fails to identify any request that commands the scheduler 50 to schedule the transmission of a packet.*

*Thus, Li fails to disclose, teach, or suggest the presence or absence of the non-real time packet request being confirmed only after confirming the absence of said real time packet request.*



**B. U.S. Patent Application Publication No. 2004/0114516 (Iwata)**

1. Iwata fails to disclose, teach, or suggest the presence or absence of the non-real time packet request being confirmed only after confirming the absence of said real time packet request.

As noted hereinabove, Iwata fails to disclose, teach, or suggest the confirmation of presence or absence of a request to transmission of a low priority packet only after confirming the absence of a request to transmission of a premium packet.

*Thus, Iwata fails to disclose, teach, or suggest the presence or absence of the non-real time packet request being confirmed only after confirming the absence of said real time packet request.*

Withdrawal of this rejection and allowance of the claims is respectfully requested.

**Official Notice**

There is no concession as to the veracity of Official Notice, if taken in any Office Action.

An affidavit or document should be provided in support of any Official Notice taken. 37 C.F.R. 1.104(d)(2), M.P.E.P. § 2144.03. See also, *Ex parte Natale*, 11 USPQ2d 1222, 1227-1228 (Bd. Pat. App. & Int. 1989)(failure to provide any objective evidence to support the challenged use of Official Notice constitutes clear and reversible error).

**Extensions of time**

Please treat any concurrent or future reply, requiring a petition for an extension of time under 37 C.F.R. §1.136, as incorporating a petition for extension of time for the appropriate length of time.

The Commissioner is hereby authorized to charge all required fees, fees under 37 C.F.R. §1.17, or all required extension of time fees.

**Fees-general authorization**

The Commissioner is hereby authorized to charge any deficiency in fees filed, asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm).

If any fee is required or any overpayment made, the Commissioner is hereby authorized to charge the fee or credit the overpayment to Deposit Account # 18-0013.

**Conclusion**

This response is believed to be a complete response to the Office Action.

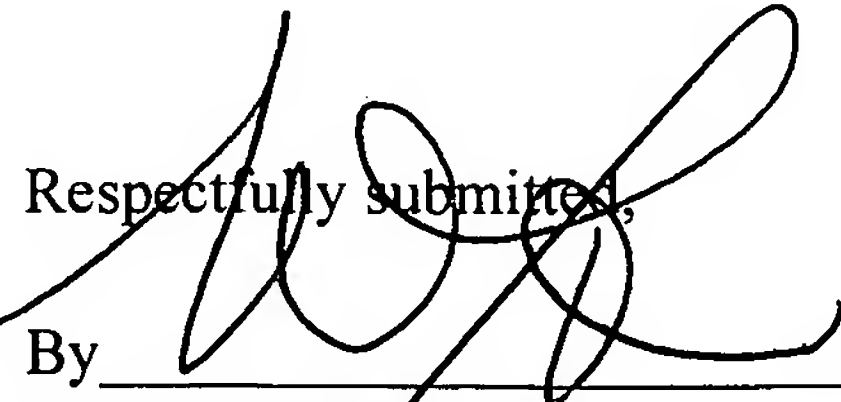
Applicants reserve the right to set forth further arguments supporting the patentability of their claims, including the separate patentability of the dependent claims not explicitly addressed herein, in future papers.

For the foregoing reasons, all the claims now pending in the present application are allowable, and the present application is in condition for allowance.

Accordingly, favorable reexamination and reconsideration of the application in light of the remarks is courteously solicited.

If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone Brian K. Dutton, Reg. No. 47,255, at 202-955-8753.

Dated: May 20, 2010

Respectfully submitted,  


By \_\_\_\_\_  
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